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Before The
Federal Communications Commission
Washington, D.C. 20554

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In the Matter of	)	
	)	CC Docket No. 94-102
Revision of the Commission's Rules	)	
To Ensure Compatibility With	)	RM-8143
Enhanced 911 Emergency Calling Systems	)	

COMMENTS OF THE
MULTI-MEDIA TELECOMMUNICATIONS ASSOCIATION
ON THE MLTS/E-911 ISSUES SETTLEMENT AGREEMENT

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April 21, 1997

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Pursuant to the Commission's Public Notice, DA 97-709, released April 10, 1997, the MultiMedia Telecommunications Association ("MMTA") submits the following comments on the "Public Safety - MLTS Industry Consensus" agreement entered into by MMTA, the Ad Hoc Telecommunications Users Committee ("Ad Hoc"), the Association of Public-Safety Communications Officials - International, Inc. ("APCO"), the National Association of State Nine One One Administrators ("NASNA"), and the National Emergency Number Association ("NENA").[1]

[1] "Public Safety - MLTS Industry Consensus, MLTS/E-911 Issues, CC Docket No. 94-102," submitted April 1, 1997 ("Consensus").

I. THE CONSENSUS PROPOSAL SHOULD BE ADOPTED

MMTA supports the proposed settlement agreement, with two relatively minor qualifications,[2] as a "straight-forward and practical solution to the E-911 MLTS problem." Consensus at 2.

The settlement agreement strikes a reasonable balance between the interest in protecting public safety and the interest in avoiding the imposition of unwarranted costs and burdens on manufacturers, vendors, and users of customer premises telecommunications equipment.

MMTA's support for the Consensus is based on implementation of the proposal in its entirety. The Consensus proposal has four key components.

A. Nationwide Rules That Preempt More Stringent State Or Local Equipment Regulations

Adoption of the settlement agreement will maintain the well established benefits of the FCC's nationwide Part 68 equipment interconnection rules. For 20 years, these nationwide rules have served to promote fair equipment competition by guaranteeing that manufacturers, supplies and retailers can sell, and customers can purchase, multi-line telecommunications systems ("MLTS") that are "privately beneficial without being publicly detrimental." Telerent Leasing Corp., 45 FCC2d 204, 205 (1974), aff'd North Carolina Utilities Comm'n v. FCC, 537 F.2d 787 (D.C. Cir. 1976), cert. denied 429 U.S. 1027 (1977). In MMTA's initial comments on the Notice of Proposed

[2] MMTA dissents from the Consensus on the question of shared tenant business systems. In addition, MMTA disagrees with the public safety groups on the appropriate compliance dates for MMTA serving residential facilities. These issues are discussed below.

Rulemaking in this proceeding (filed by MMTA's predecessor organization, the North American Telecommunications Association ("NATA")), MMTA stressed that any rules adopted by the Commission in this proceeding must preempt more burdensome state requirements. Comments of NATA, filed January 9, 1995, at 14-15.

In keeping with the established federal policy, the Consensus provides that compliance with the "one ANI/ALI per 40,000 square feet" criterion relieves an employer or MLTS operator from any more stringent state or local equipment regulations. Such inconsistent state or local requirements would be preempted.

Last year, MMTA filed a petition for declaratory ruling requesting the Commission to rule that Illinois' unduly burdensome PBX requirements are preempted by the existing Part 68 rules and policies. In that petition, MMTA detailed the burdens imposed by the Illinois law on equipment manufacturers, retailers and users. If the Commission adopts the Consensus, MMTA believes that Illinois' 911 statute's requirement for PBXs to "provide . . . business end users . . . the capability to identify the telephone numbers, extension number, and the physical location that is the source of the call" should and would be preempted because it imposes a requirement that is far more burdensome to users than the requirement to associate one ALI/ANI per 40,000 square feet. See 50 ILCS 750/2.16 (emphasis added). In order to ensure that the record in this proceeding includes the evidence submitted with MMTA's petition regarding the need for reasonable regulations that preempt more stringent state or local requirements, and the Commission's authority to adopt such regulations, MMTA is appending to these comments copies of its petition, with attachments, and its reply to comments on the petition. See Appendix.

B. Exemption For MLTS Serving Less Than 40,000 Square Feet Of Workspace

A second key component of the Consensus is the exemption for business telephone systems serving less than 40,000 square feet of workspace. As MMTA testified in the Commission's September 19-20, 1996 ex parte meeting, there are some 300,000 business telephone systems sold every year. The overwhelming majority of these systems serve fewer than 200 stations in compact locations that have not been shown to pose any major public safety issue in connection with 911 calling. Applying precise location identification requirements to such MLTSs would impose costs that are disproportionate to these users' equipment budgets and to any conceivable benefit. See MMTA's "Ex Parte Meeting" presentation, attached to a letter to William S. Caton from Robert F. Aldrich, September 23, 1996.

MMTA differs from the other parties to the Consensus in advocating that the "Level One" exemption cover all business systems serving less than 40,000 square feet in a single building, including systems that serve multiple tenants. Smaller systems (i.e., those serving less than 40,000 feet of workspace) are likely to face the same cost and feasibility difficulties in meeting the proposed standard, whether they serve one tenant or several tenants. Further, multi-tenant business systems are less likely than residential systems to pose a significant location problem in an emergency. In an office – in contrast to a residential unit such as an apartment – there are usually other people nearby who can help, and an emergency victim is far less likely to be isolated behind locked doors.

C. Flexibility To Use Alternative Methods

Another essential component of the settlement agreement is the provision for alternative means of compliance. An employer or MLTS operator would not be required to provide one ANI/ALI per 40,000 square feet if there is a satisfactory alternative means of signaling and responding to emergencies, e.g., through an attendant notification capability provided in the MLTS. Where such alternative means are used, however, state or local authorities are not preempted from reviewing such methods under applicable public safety standards.

This approach is in keeping with the Commission's overall approach to CPE interconnection. From the earliest decisions recognizing a federal right of equipment interconnection, the Commission has expressly recognized that a state may allow users additional options with respect to equipment interconnection, as alternatives to those expressly sanctioned in FCC regulations. Telerent, 45 FCC2d at 221.

D. Reasonable Timetables For Compliance

The fourth key component of the settlement agreement is the provision of reasonable timetables for compliance, with respect to both new and embedded equipment.

The agreement generally[3] provides that all equipment that is installed two or more years after the effective date should be in compliance with applicable regulations.

[3] The public safety groups support a one-year compliance date for both new and embedded MLTS serving permanent residential facilities. While MMTA recognizes the underlying concerns with these locations, we believe the two and three-year deadlines will ensure a more orderly compliance process without unduly delaying implementation.

Equipment that is installed prior to the two-year deadline for new equipment is given an additional period of time that varies with the type of location; for equipment serving relatively higher-risk locations, the deadline for previously installed equipment is three years after the effective date; and for equipment serving relative lower-risk locations, the deadline is seven years after the effective date.

II. ADOPTION OF THE CONSENSUS PROPOSAL WILL OBVIATE ANY NEED FOR REGULATIONS GOVERNING EQUIPMENT DESIGN

The Consensus proposal seeks to minimize intrusion into the equipment market. By specifying the Consensus proposal's "performance" requirements the Commission can and should leave it to the marketplace to address how the required performance level is achieved.

As stated above, the Consensus proposal effectively recognizes that most business telephone system locations (i.e., those with less than 40,00 square feet of workspace) need not be subject to any location identification requirements. For those locations where regulation is deemed necessary, a variety of different compliance options would be potentially available. An equipment operator might: (1) purchase the CPE and CAMA trunks necessary to deliver a calling station identification number with 911 calls; (2) purchase ISDN service and ISDN-compatible equipment that can deliver a calling station identification number with 911 calls; (3) configure the MLTS so that different trunks or trunk groups are used for 911 calls from each 40,000 square foot area; or (4) utilize an alternative means of signaling or responding to emergencies – such as an attendant console that alerts the attendant and identifies the source of any 911 call.

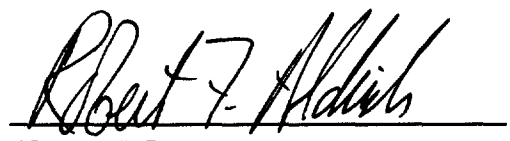
Manufacturers should not be forced to adopt one of these design solutions and build it into all their equipment. Instead, the Commission should leave it to the marketplace to determine which design solution is most cost-effective for the small percentage of MLTS that are required to have a solution.

CONCLUSION

The Consensus is a reasonable, nationwide solution to the E-911 MLTS problem. Additional regulation is unwarranted.

April 21, 1997

Respectfully submitted,



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APPENDIX

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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

Emergency Petition of the MultiMedia Telecommunications Association for a Declaratory Ruling that Illinois' Regulation of Premises Equipment Used for 911 Dialing is Preempted by Federal Law	)

EMERGENCY PETITION FOR DECLARATORY RULING

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Emergency Petition of the MultiMedia Telecommunications Association for a Declaratory Ruling that Illinois' Regulation of Premises Equipment Used for 911 Dialing is Preempted by Federal Law	)

EMERGENCY PETITION FOR DECLARATORY RULING

The MultiMedia Telecommunications Association ("MMTA") hereby petitions for a declaratory ruling that Section 750/15.6 of Chapter 50 of Illinois Consolidated Statutes, ("Illinois' 911 CPE statute") which requires all multiline[1] customer premises equipment ("CPE") to transmit the calling station number on emergency 911 calls, is preempted by the Communications Act of 1934 and the FCC's rules promulgated thereunder. MMTA requests expedited treatment of its petition due to the imminence of the June 30, 1996 statutory deadline for compliance with Illinois' 911 CPE statute.

SUMMARY

Illinois' 911 CPE statute is intended to help public safety agencies pinpoint the location of 911 callers. In pursuing this laudable objective, however, Illinois has imposed restrictive regulation on all multiline CPE systems, including small systems serving less than 200 stations. Illinois' 911 CPE restrictions are far broader than those

[1] "Multiline" CPE systems are systems that serve more than one network access line and more than one station set.

imposed by other states, and are not justified by evidence of a major public safety issue affecting smaller CPE systems as a whole. Further, Illinois' 911 CPE restrictions would be extremely burdensome to owners, manufacturers and vendors of small CPE systems.

Because of the costs and technical difficulty involved in providing a capability for transmitting calling station numbers on 911 calls, some small CPE systems would be forced out of the Illinois market, with negative consequences for the national market as well. Owners of other small CPE systems would incur greatly increased costs due to the high cost of the "adjunct" equipment and specialized network services required. Total costs of complying with the Illinois statute for new small CPE systems alone are likely to be in the neighborhood of $100 million or more.

The Commission should declare that Illinois' 911 CPE restrictions are preempted by the Communications Act and longstanding FCC policies and regulations thereunder. First, the statute regulates CPE as if it were a telecommunications service, contrary to FCC decisions deregulating CPE. Second, the statute impermissibly restricts the interconnection of CPE, without any evidence of "harm" as defined by the FCC's Part 68 rules. Third, the statute's CPE restrictions impose extreme burdens on CPE users, violating their federal right to interconnect privately beneficial equipment.

STATEMENT OF INTEREST

MMTA is a trade association of manufacturers, suppliers, distributors, retailers and users of customer premises equipment ("CPE"). Founded in 1970,[2] MMTA

[2] Until 1995, MMTA was known as the North American Telecommunications Association ("NATA"). In 1995, NATA reorganized its membership structure and (Footnote continued)

exists to promote competitive markets and healthy sales and support channels for users of business and public communications products and services. MMTA has actively participated in FCC proceedings affecting CPE markets. MMTA supports regulatory policies that promote fair competition in the telecommunications equipment and services distribution marketplace.

Many MMTA members are actively involved in supplying equipment and services that promote public safety. MMTA members provide equipment and services to public safety agencies as well as to hospitals, nursing homes, and other businesses with special safety concerns that must be addressed by CPE.

MMTA recognizes the public safety value, in many types of situations, of technology that can more precisely identify the location of 911 callers. However, decisions to require deployment of such technology should take into account that both the benefits and the costs can vary dramatically based on various factors, including the size of CPE systems and the locations they serve. Regulation in this area should be targeted in order to maximize benefits and minimize costs to all parties, including business CPE owners and equipment suppliers at all levels of the distribution chain.

I. STATEMENT OF FACTS

A. Background

For a number of years, public safety agencies have used the automatic number identification ("ANI") feature of the telephone network as an aid in locating the

(Footnote continued)
changed its name to MMTA to reflect its broadened focus on the diversity of technologies and media now available to business telecommunications users.

source of calls to the 911 emergency number, and in expediting the delivery of emergency assistance. Pursuant to services offered by local telephone companies and/or other service providers, when the public safety agencies' "answering point" ("PSAP") receives a 911 call, the telephone network's ANI function transmits to the PSAP the billing number associated with the telephone line originating the call. This automatically provides the PSAP with a call-back number. Then, the ANI associated with a 911 call is matched with the associated billing address, and the billing address in turn is provided to the PSAP. In most instances, the billing address provides a reasonably accurate and precise indication of the caller's location. Accordingly, public safety agencies have come to rely on this "ANI/ALI" system in handling 911 calls, especially if they are unable to obtain a clear identification of the location of the emergency directly from the 911 caller.

However, in some cases, the billing address does not provide the degree of precision that public safety agencies desire in order to pinpoint the caller's location. If the billing address is that of a large building, for example, it may not be immediately apparent which of the rooms in the building is the site of the emergency.[3] In a few cases, reliance on the billing address may actually lead the public safety agency to send emergency help to the wrong address. For example, emergency help might be misrouted if the customer employs a PBX to route calls to and from off-premises

[3] This may be of particular concern if the building has numerous self-contained residential units, such as in a college dormitory or an apartment building, and if the owner of the building uses a PBX or centrex system to provide shared service to the building as a whole. In those circumstances, the telephone company may have only one billing address for the entire building, even though there are numerous individual residential units in the building. As discussed below, a number of state statutes focus their requirements for 911 location identification primarily on these types of situations.

locations and a caller from the off-premises location is unable to provide the emergency agency with his or her actual location.

The FCC has begun a proceeding to consider amendments to its Part 68 regulations in order to address such issues. In a Notice of Proposed Rulemaking issued October 19, 1994, the Commission proposed to amend its Part 68 regulations to require that PBXs and other "dispersed private telephone systems" manufactured or installed after a certain date be provided with additional technical capabilities to assist in automatically identifying a 911 caller's location. Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Notice of Proposed Rule Making, CC Docket No. 94-102, FCC 94-237, released October 19, 1994, ("911 CPE NPRM"). However, the Commission recognized that its proposed regulations were not necessarily needed or appropriate for all multiline telephone system installations. The Commission requested comment on, among other things, whether its proposed regulations should apply to small CPE systems serving undispersed telephone stations. Id., ¶ 21. Numerous comments were filed in response to the 911 CPE NPRM. Several parties urged the Commission not to apply its proposed regulations to smaller types of CPE systems. See, e.g., Comments of the North American Telecommunications Association in CC Docket No. 94-102, filed January 9, 1995 at 11; Comments of Northern Telecom, Inc. in CC Docket No. 94-102, filed January 9, 1995, at 35. The Commission also recognized the importance of uniform 911 compatibility requirements and requested comment on whether inconsistent state or local requirements should be preempted. Id., ¶ 59.

To date, legislation to regulate 911 interconnection by certain kinds of telecommunications service providers has been adopted in at least four states: Illinois, Mississippi, Texas and Washington. In general, the focus of these state laws, other than Illinois' law, has been on the provision of more precise location identification information when 911 calls are made in certain specialized settings. In most states that have adopted legislation in the area of 911 calling from multiline CPE systems, the legislation is narrowly targeted to regulate service providers and to address certain kinds of locations that are believed to raise significant public safety concerns. In Texas, for example, the statutory multiline CPE requirements apply only to providers of shared telecommunication services to residential end users. See Texas Health and Safety Code, §§ 771.001 to 772.406. In Mississippi, similar requirements apply only to "shared tenant services" serving business or residential users. See Mississippi Code, § 19-5-359. In Washington, similar requirements apply only to school districts, shared residential services, and shared business services serving locations that meet certain size or dispersion criteria. See Substitute Senate Bill 5089, §§ 3-5.

Evidence of a substantial public safety issue with respect to multiline CPE systems as a whole is not impressive. According to a survey conducted by a working group on the 911 location identification issue in Washington state, only 1.8% of 911 calls originated behind PBXs, and only 0.34% of these calls posed a problem in identifying the location of the caller. See Comments of Washington TRACER and Oregon TRACER in CC Docket No. 94-102, filed January 9, 1995, at 5-6, n. 6.

B. Illinois' 911 CPE Statute

Unlike the other states discussed above, where the 911 statutes focus primarily on regulation of common carriers and address specialized situations, Illinois has adopted a wide-ranging statute to address perceived 911 location identification problems by regulating all multiline CPE systems.

Illinois' 911 CPE statute provides:

> Sec. 15.6. Private business switch service 9-1-1 service. (a) Private business switch service 9-1-1 service. After June 30, 1996, an entity that installs or operates a new private business switch service or replaces an existing private business switch service and provides telecommunications facilities or services to businesses shall provide to those business end users the same level of 9-1-1 service as the public agency and the telecommunications carrier are providing to other business end users of the local 9-1-1 system. This service shall include, but not be limited to, the capability to identify the telephone number, extension number, and the physical location that is the source of the call to the number designated as the emergency telephone number. After June 30, 1999, all entities providing or operating a private business switch service shall be in compliance with this Section.
>
> (b) The private business switch operator is responsible for forwarding end user automatic location identification record information to the 9-1-1 system provider according to the format, frequency, and procedures established by that system provider.
>
> (c) An entity that violates this Section is guilty of a business offense and shall be fined not less than $1,000 and not more than $5,000.
>
> (d) Nothing in this Section shall be construed to preclude the Attorney General on behalf of the Commission or on his or her own initiative, or any other interested person, from seeking judicial relief, by mandamus, injunction, or otherwise, to compel compliance with this Section.

50 ILCS 750/15.6.

A "private business switch service" is defined as follows:

> Sec. 2.16. Private business switch service. "Private business switch service" means a telecommunications service including centrex type service, private branch exchange service (PBX), and key telephone systems providing 9-1-1 services equipped for switched local network connections or 9-1-1 system access to business end users through a private telephone switch. "Private business switch service" typically includes, but is not limited to, private businesses, corporations, and industries where the telecommunications service is primarily for conducting business.

50 ILCS 750/2.16.

In contrast to the other state statutes, which focus primarily or exclusively on providers of shared telecommunications service, and in contrast to the immediately following section of the Illinois statute, which defines private residential switch service as including "but not limited to apartment complexes, condominiums, and campus or university environments where shared tenant service is provided. . . ." (50 ILCS 750/2.17), (emphasis added) – there is no language in Section 750/2.16, limiting its scope to shared telecommunications services. Instead, Illinois' 911 CPE statute evidently requires all multiline CPE systems installed after June 30, 1996[4] to identify the calling telephone number and extension ("the calling station number") on 911 calls, and requires system owners to maintain and keep up-to-date a data base matching station numbers to station location information. Moreover, the requirements apply regardless of whether

[4] The statute also requires all existing multiline systems installed before June 30, 1996, to be eventually modified or replaced as necessary to identify calling station numbers on 911 calls. However, the deadline for bringing existing systems into compliance does not occur until June 30, 1999.

the CPE is part of an off-premises extension, school system, or other setting that might arguably pose a special public safety issue, and regardless of whether the CPE system serves two stations or 2,000 stations.

C. The Illinois Statute Imposes Heavy Burdens On Owners Of Small CPE Systems

As discussed above, based on current record data, there is little reason to believe that, outside of special situations, 911 calling station identification is a major public safety issue for PBXs as a whole. There is even less reason to believe that such a public safety issue is raised by small CPE systems. As the Commission's 911 CPE NPRM recognizes (¶ 21), small systems are likely to have closely situated telephone stations that minimize any likelihood of insufficiently precise identification of a 911 caller's location.

By failing to limit the scope of its coverage of small CPE systems, the Illinois 911 CPE statute imposes a particularly heavy burden on small businesses that own CPE systems with fewer than 200 lines. Moreover, as the size of the business and its CPE system decreases, the burden of compliance becomes even heavier. There are two reasons for this, both of which follow from a common basic factual premise.

The basic factual premise is that the currently available methods for identifying calling station numbers to the PSAP on 911 calls are very limited. Ordinary local exchange service is not configured to accept calling station information from multiline CPE, and consequently, most CPE systems have not been designed to provide such information on calls transmitted to the local exchange network. Currently, the

only standardized method of complying with the Illinois statute's requirement to identify the calling station number on all 911 calls is to configure the system to operate with specialized telephone company facilities known as centralized automatic message accounting ("CAMA") trunks.[5] For the typical business user the CAMA trunks would serve no purpose other than transmission of 911 calls with the associated station number information. CAMA trunks use loop reverse-battery call supervision and in-band Multi-Frequency (MF) tone signaling for transmitting station number information. (See ANSI T1.411.) Thus, in order to connect to a CAMA trunk for purposes of transmitting station identification, CPE must be capable of reacting to a loop reverse-battery call supervision signal and must be capable of transmitting in-bank MF tone signaling. In addition, the CPE system must be configured so that it sends the appropriate station information to the CAMA trunk interface on every 911 call. See Attachment 4.

Some PBX systems have built-in capability to react to reverse battery call supervision signaling and to transmit in-band MF tone signaling. However, smaller systems, especially key/hybrid systems, generally do not have the capability to react to reverse battery call supervision signaling and to transmit in-band MF tone signaling. Thus, small CPE systems generally cannot be directly connected to a CAMA trunk for purposes of transmitting station identification on 911 calls. Id.

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[5] While ISDN potentially could be used for this purpose in the future, standards for transmitting ISDN information between the customer premises and the PSAP are not yet available. Consequently, most PSAPs are using analog (CAMA) signaling and will probably continue to do so for some time. Even if standards are promulgated, the applicability of an ISDN "solution" generally would be limited to currently relatively small number of customers who purchase ISDN compatible CPE systems. See Attachment 4.

A few companies currently manufacture and sell "adjunct" equipment that may be installed on the customer premises in order to facilitate the transmission of station identification on 911 calls. To utilize these "adjunct" products, the CPE system must be configured so as to route 911 calls to the adjunct product and to transmit the calling station number to the adjunct product. The adjunct product then must seize the CAMA trunk, react to the reverse battery supervisory signal from the network, "translate" the calling station number into MF signaling using an appropriate protocol, and send the 911 call with the MF station identification signal through the CAMA trunk to the public safety answering point to which the CAMA trunk is connected. Id.

However, the use of CAMA trunks to transmit 911 calling station numbers would be extremely burdensome to small-system users for two reasons. First, some CPE systems in the smaller line sizes cannot be economically adapted to work with CAMA trunks, even with the help of "adjunct" equipment, without extensive modifications that would destroy the marketability of the systems. Second, the smaller CPE systems that can be adapted to transmit station identification on CAMA trunks generally require "adjunct" equipment, and the mostly fixed costs of this adjunct equipment, as well as the associated CAMA trunks would fall very heavily on owners of smaller systems. These points are discussed in greater detail below.[6]

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[6] The discussion below focuses on the capabilities and compliance costs associated with newly purchased current models of CPE. The Illinois statute requires even existing CPE to be modified or replaced in order to transmit 911 station identification. While the deadline for bringing the embedded base into compliance is not until June 30, 1999, the capabilities of older models are even more limited and modification costs would be even more burdensome. See Attachment 4. Therefore, the Illinois statute's requirements for existing CPE also should be preempted.

1. Certain Kinds of Smaller CPE Systems Cannot Work with CAMA Trunks

Smaller CPE systems, as currently manufactured, generally cannot transmit station identification directly over CAMA trunks because they lack the capability to react to reverse battery signaling and to transmit in-band MF tone signaling. See Attachment 2.

While some of the smaller CPE systems can be adapted to transmit station identification by connecting them to adjunct equipment that is in turn connected to CAMA trunks, other small CPE systems cannot be interconnected with adjuncts so as to provide station identification without changing the fundamental architecture of the system, or making very costly modifications.[7] The affected systems are primarily key and hybrid[8] systems. For some of these systems, the cost of required modifications will prevent further sales of the systems in Illinois. See Attachments 3 and 4.

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[7] Some of the problems are related to basic characteristics of key telephone systems. With a PBX, the user can obtain pooled access to a group of network access lines, typically by dialing "9" from the station set. A key telephone system, by contrast, is designed to provide shared access to several outside lines through buttons, or keys, on the station set. To make a call over the public network, the user selects an available "line appearance" button on the set. There is usually more than one "line appearance" on each set, and line appearances are usually shared by more than one user.

As a consequence, there are significant costs and difficulties involved in configuring key telephone systems to transmit 911 calls with a calling station number, even when adjunct equipment is provided. For example, a key system ordinarily provides a unique calling station number, if at all, only with intercom calls. However, a user making a 911 call would naturally dial it by selecting a line appearance – and not the intercom button. Further, any call-back number that is provided is likely to appear as a line appearance on more than one telephone set.

[8] A hybrid is a CPE system that shares the line-access characteristics of both key and PBX systems.

Thus, one effect of the Illinois statute is to eliminate some models of CPE from the Illinois marketplace. The impact of the Illinois statute goes beyond the specific manufacturers involved. Distributors and retailers that have invested in marketing those systems will lose sales and may even be forced out of business. Users that desire a particular system because of features specific to their market segment may lose access to their preferred models of CPE.

Further, the impact of the Illinois statute is not confined to Illinois. Users with nationwide operations frequently standardize their operations around a particular model of equipment because of its particular features or qualities. If that model of CPE becomes unavailable in Illinois, the customer may be effectively compelled to change out its other equipment.

In summary, even though a CPE product has been demonstrated to have desirable qualities that make it popular in its market segment, due to the product's inability to conform technically with one state's idiosyncratic requirements, applicable to only one type of call, the product may be forced out of the marketplace, inflicting major costs on manufacturers, vendors, and users.

2. Even Where Feasible, Compliance with the Illinois Statute Imposes an Extremely Heavy Cost Burden on Small System Owners

Even to the extent that compliance by means of operating with adjuncts is feasible at all, the costs of compliance with the Illinois statute are extremely heavy for owners of small CPE systems. Most of the known costs fall into three categories: (1) adjunct equipment and related modifications of equipment; (2) CAMA trunks; and (3)

data base maintenance and updates. Attachment 5 lists the range of cost estimates for these categories that have been provided to MMTA by its members.

Estimated retail prices of adjuncts, including hardware, software, connections, and installation and training range between $15,000 and $30,000 per CPE system. While these estimates relate mainly to the provision of adjuncts with larger PBX systems, MMTA is not aware of any substantially reduced prices for installing adjuncts with smaller CPE systems. Nevertheless, we will assume that retail adjunct prices for small CPE systems in Illinois are reduced by one-third due to volume sales or other factors. This conservative assumption results in estimated costs of $10,000 to $20,000 per system.

In addition, estimated charges for installation of CAMA trunks are about $500 per trunk, and estimated recurring charges range between $35 and $50 per trunk per month. Adjunct manufacturers generally recommend a minimum of two CAMA trunks per system. Based on these estimates, the present value of five years of monthly payments for two CAMA trunks, based on 7.5% interest, would be $3,500 to $5,000, for total CAMA trunk costs of $4,500 to $6,000.

In addition to equipment and CAMA trunk costs, compliance with the Illinois statute entails considerable expense in maintaining and updating data base information. Start-up costs for a database are estimated to range from $500 to $1,000. Recurring costs will vary depending on the frequency of "moves, adds and changes" made by individual equipment owners. A conservative estimate of data maintenance costs for a 200 station CPE system is $100 per month. Assuming that very small key system owners